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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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David F. Tobias

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EXAMINER

CONNOLLY, MARK A

ART UNIT

PAPER NUMBER

2115

DATE MAILED: 10/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/876,291

Applicant(s)

TOBIAS ET AL.

Examiner

Mark Connolly

Art Unit

2115

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-28 have been presented for examination.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-2, 4-11, 13-24 and 26-28 are rejected under 35 U.S.C. 102(a) as anticipated by Cooper et al [Cooper] US Pat No 6829713.

4. Referring to claim 1, Cooper teaches the invention substantially including:

- a. determining utilization of an integrated circuit (IC) [fig. 6, col. 7 lines 3-10].
- b. comparing the determined utilization to a threshold utilization value [fig. 6, col. 7 lines 3-34].
- c. if the determined utilization is above the threshold utilization value, entering a higher predetermined performance state as the next performance state [fig. 6, col. 7 lines 3-34].

In particular, Cooper explicitly teaches comparing CPU utilization to a utilization threshold and entering the performance state associated with that threshold. Therefore, if the CPU was operating in one of the two battery optimized modes (battery optimized with and without clock throttling) and the CPU utilization spiked to over 95%, the system would enter the maximum performance mode (610). For example, if the CPU utilization in Cooper is less than 20% and is in a battery optimized mode without clock throttling (618, 620) and the CPU

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utilization spikes to over 95%, Cooper would immediately enter the maximum performance state (610), skipping the battery optimized mode with clock throttling (614, 616).

5. Referring to claim 2, Cooper teaches the predetermined performance state being a maximum performance as seen in the above argument.

6. Referring to claims 4 and 5, Cooper teaches a plurality of power modes which entered according to CPU utilization [fig. 6].

7. Referring to claims 6 and 7, Cooper teaches adjusting voltage and frequency [col. 1 lines 27-33].

8. Referring to claim 8, Cooper teaches determining the utilization periodically [col. 5 lines 38-39].

9. Referring to claim 9, Cooper teaches the integrated circuit includes a CPU [fig. 6].

10. Referring to claim 10, this is rejected on the same basis as set forth hereinabove. In addition, the Cooper system requires that the CPU enter a maximum performance mode whenever the CPU utilization is above the 95% threshold. Therefore it is interpreted that every time the CPU utilization exceeds the 95% threshold mark, the CPU will enter the same maximum performance mode.

11. Referring to claim 11, this is rejected on the same basis as set forth hereinabove. In addition, Cooper teaches that the system may comprise instructions to perform the above methods [col. 3 line 66 – col. 4 line 5].

12. Referring to claims 13-23 and 26-28, these are rejected on the same basis as set forth hereinabove. Cooper teaches the method and therefore teaches the system performing the

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method. In addition, Cooper also teaches instructions for performing the method [col. 3 line 66 – col. 4 line 5].

13. Referring to claim 24, Hetzler teaches that the computer readable medium can come from many different sources [col. 25 lines 54-58].

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 3, 12 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cooper as applied to claims 1-2, 4-11, 13-24 and 26-28 above.

16. Referring to claim 3, although Cooper teaches a plurality of performance states end entering one of the performance states based on whether a utilization threshold has been crossed, the only way Cooper skips any of the performance states is when the system transitions from a battery optimized mode without clock throttling to maximum performance mode. Through this particular transition, a battery optimized mode with clock throttling can be skipped. Whenever the system transitions to the battery optimized mode with clock throttling (interpreted as a near maximum performance state) no performance states are skipped because Cooper does not have any intermediate performance states between the near maximum performance state and its battery optimized mode without clock throttling and therefore does not skip any performance states when transitioning to the near maximum performance state. In particular, this is due to the fact that Cooper only teaches three performance states. Systems which comprise more than three

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performance states are well known in the art and it would have been obvious to modify Cooper to include additional performance states because the more performance states a CPU has the more optimally the CPU can operate in accordance with a particular CPU utilization. In addition, it is interpreted that additional threshold values would be used to indicate which performance mode should be entered as was done in the original Cooper system. Subsequently, it is interpreted that if a utilization value indicates that a CPU should enter a near maximum performance mode, the CPU would immediately enter that mode and skip any intermediate performance mode between the CPUs previous performance mode and the near maximum performance mode as was originally taught by Cooper argued above.

17. Referring to claims 12 and 25, these are rejected on the same basis as set forth hereinabove.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Connolly whose telephone number is (571) 272-3666. The examiner can normally be reached on M-F 8AM-5PM (except every first Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas C. Lee can be reached on (571) 272-3667. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark Connolly
Examiner
Art Unit 2115

mc
October 18, 2005


THOMAS LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100